

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

In the Matter of )  
 )  
Revision of the Commission's Rules ) CC Docket No. 94-102  
to Ensure Compatibility with ) RM-8143  
Enhanced 911 Emergency )  
Calling Systems )

To: The Commission

**PETITION FOR WAIVER**

Caprock Cellular ("Caprock"), by its attorneys, hereby petitions the Federal Communications Commission for a waiver of the requirements of Section 20.18(c) of the Commission's Rules, 47 C.F.R. §20.18(c). To the extent that Caprock will be unable to meet the December 31, 1998 deadline for compliance with the requirements of Section 20.18(c), concerning the transmission of "911" emergency calls made from TTY devices using digital wireless systems,<sup>1</sup> Caprock files this waiver request in accordance with the procedures established therefor.<sup>2</sup>

Caprock is a small cellular company serving approximately 3,855 subscribers in rural Spur, Texas. To accommodate the requirements of a limited number of subscribers, Caprock has deployed a single channel per cell site TDMA digital overlay; the remainder of its system is analog. Only seven current subscribers access digital signals via dual-mode handsets; the

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1 In the Matter of Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket 94-102, RM- 8143, Order, DA 98-2323, rel. Nov. 13, 1998 ("E911 Order").

2 Id.

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other three digital handsets are used by Caprock's employees for system testing purposes. Caprock's system supports TTY access to 911 over its analog facilities. With regard to digital calls, Caprock's vendor, Nortel, has indicated that equipment using the TDMA interface may be capable of transmitting 911 calls, depending on the type of vocoder used in the system, the type of text message equipment used, and the type of handset used.<sup>3</sup> In the event that callers experience difficulty with TTY access on digital handsets, Caprock notes that a dual-mode handset may be switched from the digital to the analog mode where TTY access may be supported. Given the conditional nature of its vendor's response, Caprock, in an abundance of caution, seeks waiver of the December 31, 1998 deadline.

Good cause exists for waiver. The Commission recognizes the difficulty in meeting the current timetable for compliance with the 911 TTY requirements of Section 20.18(c), and also recognized that carriers operating digital wireless systems will not be able to come into compliance with the requirements of Section 20.18(c) absent the development and deployment of equipment technically capable of performing the required functions.

In accordance with the requirements for waiver of the December, 1998 compliance deadline,<sup>4</sup> Caprock provides the following information:<sup>5</sup> Caprock is undertaking steps to provide users of TTY devices with the capability to operate such devices in connection with

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3 See attached letter from Nortel's Carol Banks to Caprock's Tommy Swaringen.

4 E911 Order at para. 11.

5 See attached Declaration of Tommy Swaringen, Caprock's Operations Manager. The Declaration bears a facsimile signature. The original Declaration will be filed with the Commission upon receipt by counsel.

digital wireless phones. Caprock has made all upgrades available to its TDMA overlay,<sup>6</sup> and continues to work with its vendor, Nortel, regarding compatibility of TTY equipment with digital facilities. Caprock is wholly dependent upon its equipment vendor with respect to ensuring 911/TTY access over its digital facilities and intends to deploy the Nortel equipment necessary for this functionality. Caprock will also continue to monitor the availability of possible 911/TTY access solutions from third parties.

To the extent that equipment upgrades are necessary, Caprock will take all due steps to implement 911/TTY access solutions. Specifically, when Nortel announces the availability of any upgrade necessary to ensure 911/TTY access capability, Caprock will place an order for such equipment or upgrade. According to usual practice, Nortel ships new equipment and upgrades to Caprock within eight weeks of the placement of an order. Immediately upon receipt of available TTY equipment, Caprock will commence installation which, typically, is completed within ten days. Following installation, Caprock will test the new equipment or upgrade for a two-week period prior to deployment. Caprock therefore estimates that a total of twelve weeks will elapse between ordering and service availability.

Caprock has taken the following steps to address the consumer concerns referenced in the Commissions September 30, 1998 Order in this proceeding: Caprock notes that each of the consumer concerns listed in the Appendix to the September 30 Order reference equipment. Caprock remains committed to customer service, including addressing any concerns regarding access to 911 services via TTY devices. As a retail outlet for wireless equipment, Caprock

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6 Caprock has upgraded its system with the latest version of the Nortel 13 bit vocoder.

will continue to work with consumers to educate them regarding equipment availability and features and assist customers with speech and hearing disabilities in locating conforming equipment. In addition, Caprock will notify all of its customers by a bill insert this month and also has instructed its sales personnel to advise its customers about this issue.

Based on the foregoing, good cause exists for waiver of Section 20.18(c) of the Commission's Rules in accordance with the timetable set forth herein.

Respectfully submitted,

Caprock Cellular

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202/296-8890

December 4, 1998

## DECLARATION OF TOMMY SWARINGEN

I, Tommy Swaringen, Operations Manager of Caprock Cellular ("Caprock"), do hereby declare under penalties of perjury that I have read the foregoing "Petition for Waiver" and the information contained therein regarding Caprock is true and accurate to the best of my knowledge, information, and belief.

Date 12-4-1998

  
Tommy Swaringen  
Operations Manager

# **NORTEL NETWORKS**

*How the world shares ideas.*

December 3, 1998

Mr. Tommy Swaringen  
Operations Manager  
CapRock Cellular  
P.O. Box 300  
Spur, TX 79370

Dear Tommy,

This letter is in response to your request for Nortel Networks to provide support information for CapRock Cellular to file a waiver request with the FCC regarding the E911/TTY rules. This response is intended to give you insight into our direction on this issue. It is based on the best technical information we have available and upon what may be required by the FCC rule.

With regard to analog calls through the Nortel Networks equipment supplied to CapRock Cellular, to the best of our knowledge, our equipment is capable of transmitting 911 calls from people with speech or hearing disabilities through means other than the mobile handset, as an example through use of Text Telephone Devices (TTY). However, as noted below, most TTYs (a/k/a TTDs) in use today have not been designed to connect with wireless handsets, and the 911 text message may be corrupted by the consumers' equipment. Further, Nortel Networks believes that without extensive testing of text messages over analogue systems, it is premature to assume all 911 calls will be received by the 911 call center essentially error free.

With regard to digital calls through Nortel Networks equipment using the IS-95 CDMA air interface, the equipment, in the short term, is likely to not be capable of transmitting the 911 call with sufficient error free text to elicit proper 911 response.

With regard to digital calls through Nortel Networks equipment using the IS-136 TDMA air interface, the equipment, in the short term, may be capable of transmitting the 911 calls with sufficient error free text to elicit proper 911 response, depending upon the type of vocoder used in the system, the type of text message equipment used, and the type of handset used.

Industry standards to support TTY operation in digital mode are not currently defined. Nortel Networks is working with other equipment manufacturers and carriers to define the required design standards needed to develop this service. History tells us that it typically takes twelve to eighteen months from the adoption of standards to the commercial availability of product. However, in this instance, if the TTY is to be a part of the phone path to send text messages for people with hearing or speech disabilities, then TTY manufacturers must work sincerely and cooperatively with wireless manufacturers to develop a workable standard. As technical

TTY considerations must be considered for a good standard, the wireless industry cannot develop a good standard without technical assistance from TTY manufacturers. Nortel Networks consequently cannot project when a design standard will be in place. In the interim, consumers may wish to test placing text calls over the digital path, or set their handsets to transmit only in analogue mode for text message calls.

If the 911 call content is corrupted by the TTY consumer devices used by speech or hearing disabled users, Nortel Networks system equipment will not be able to correct the errors. Nortel Networks is aware that the vast majority of TTYs are not designed to connect to wireless handsets, and such lack of good connection frequently corrupts messages before they reach the system networks. There are some TTY equipment models that have connections that facilitate properly connecting handsets and the TTY, but we believe few are in use. As you are aware, Nortel Networks does not currently manufacture wireless handsets, and is unable to resolve this connectivity problem. In addition, Nortel Networks is not aware of any TTY that has been designed for its ~~voice~~ to be carried error free over digital vocoders designed for human speech. Therefore, the digital audio path is more prone to create text errors more frequently than text messages over analogue audio paths.

Complicating the task of providing text-messaging capability for those with hearing and speech disabilities, is the lack of standards in the TTY industry. The TTY has been the most used text message system for the hearing and speech disabled users covered by the FCC's 911 rule, but there does not appear to be a single solution that would work for all TTY devices in use. In addition to the TTY, consumers are using the Internet for sending and receiving text messages. Nortel Networks is aware that people with hearing and speech disabilities, increasingly use the Internet for communication, and the Internet may become a method for placing 911 calls into the future.

The wireless industry has been working with consumer representatives and TTY manufacturers in the TTY Forum for almost two years. Nortel Networks is hopeful that information sharing from this group and comprehensive testing will identify practical solutions that manufacturers can incorporate into system solutions. However at this time Nortel Networks believes that a person with hearing or speech disabilities may find it difficult to place a wireless 911 call with the TTY equipment that they use for wireline calls, and a solution for all TTY users is not achievable by 12-31-98.

I would appreciate the opportunity to further discuss this issue with you at your convenience.

Sincerely,

Carol Banks  
Nortel Networks Wireless Sales